TOP20 2020000

FIG. 1

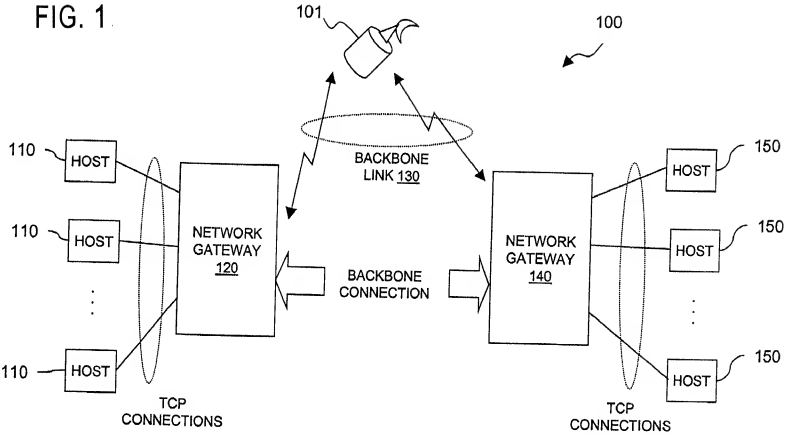


FIG. 2

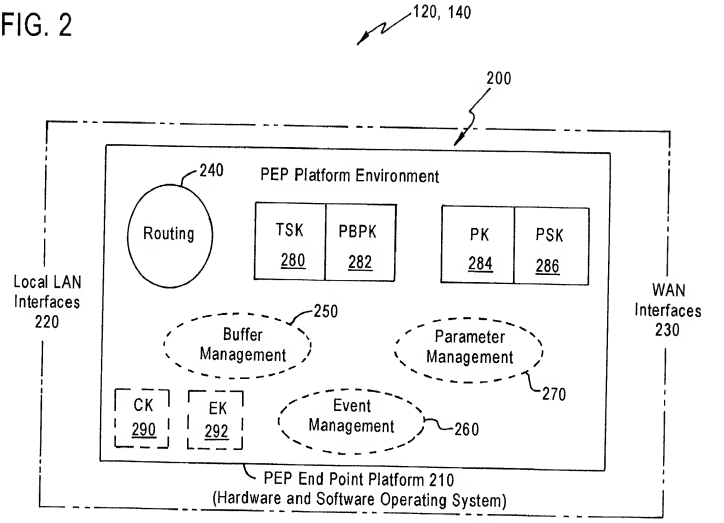

120, 140
200
240
PEP Platform Environment
Routing
TSK
280
PBPK
282
PK
284
PSK
286
Local LAN
Interfaces
220
WAN
Interfaces
230
250
Buffer
Management
Parameter
Management
270
CK
290
EK
292
Event
Management
260
PEP End Point Platform 210
(Hardware and Software Operating System)

FIG. 3

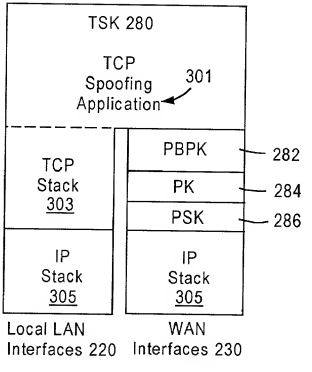

TSK 280
TCP
Spoofing
Application
301
TCP
Stack
303
PBPK
282
PK
284
PSK
286
IP
Stack
305
IP
Stack
305
Local LAN
Interfaces 220
WAN
Interfaces 230

FIG. 4A

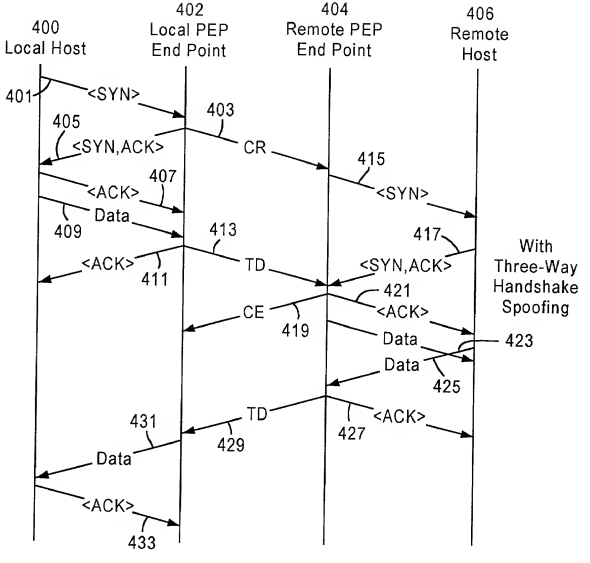
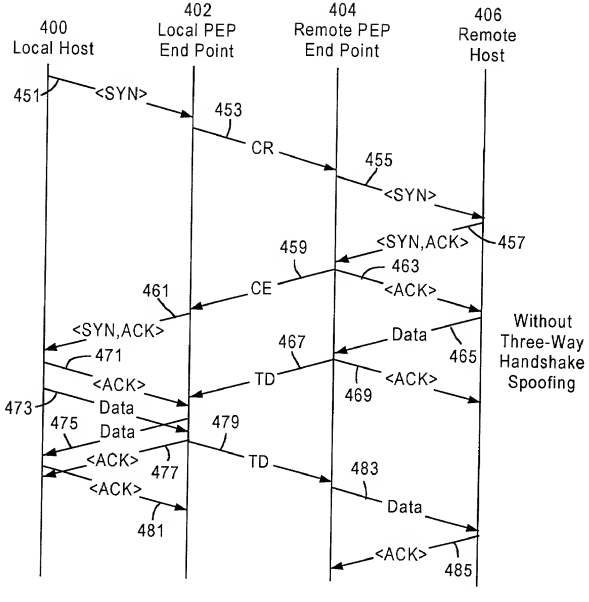

400
Local Host
402
Local PEP
End Point
404
Remote PEP
End Point
406
Remote
Host
401
<SYN>
403
405
<SYN,ACK>
CR
415
<SYN>
407
<ACK>
Data
409
413
417
With
Three-Way
Handshake
Spoofing
<ACK>
411
TD
<SYN,ACK>
421
<ACK>
CE
419
Data
423
Data
425
TD
<ACK>
431
429
427
Data
<ACK>
433

FIG. 4B


400
Local Host
402
Local PEP
End Point
404
Remote PEP
End Point
406
Remote
Host
451
<SYN>
453
CR
455
<SYN>
457
<SYN,ACK>
459
463
<ACK>
461
CE
<SYN,ACK>
471
<ACK>
473
Data
475
Data
<ACK>
477
<ACK>
481
467
Data
465
TD
<ACK>
469
479
TD
483
Data
<ACK>
485
Without
Three-Way
Handshake
Spoofing

PCT/US2003/030000

FIG. 5

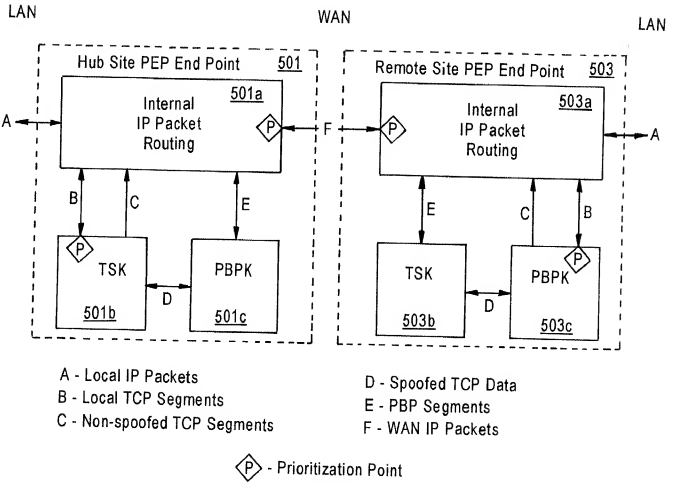


FIG. 6

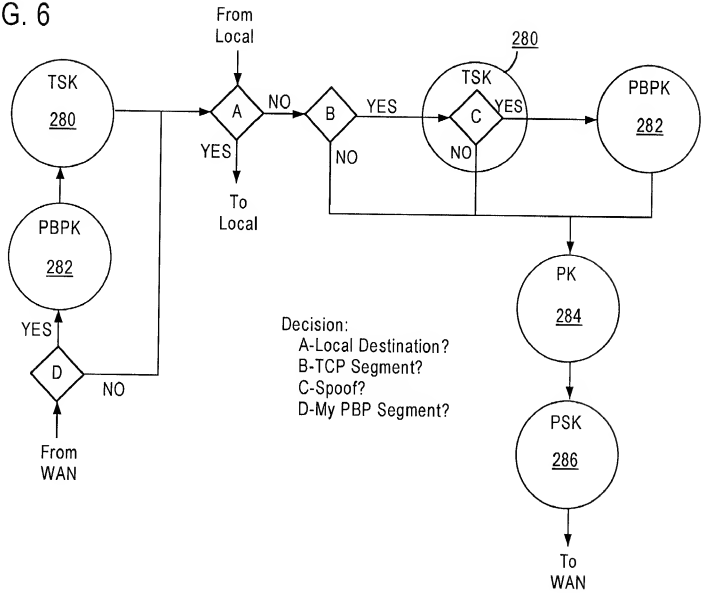

From Local
TSK 280
A
NO
B
YES
280
TSK
C
YES
NO
PBPK 282
YES
To Local
NO
PBPK 282
PK 284
YES
D
NO
From WAN
Decision:
A-Local Destination?
B-TCP Segment?
C-Spoof?
D-My PBP Segment?
PSK 286
To WAN

FIG. 7

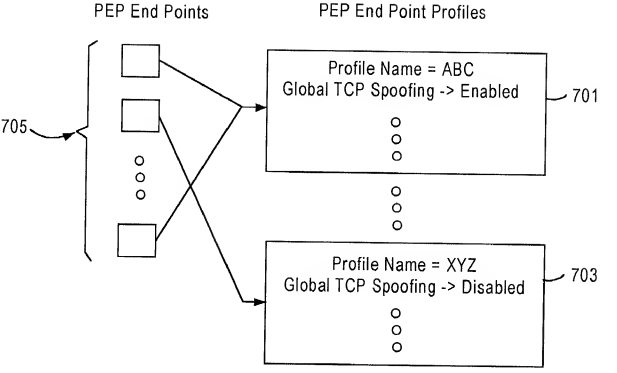

PEP End Points
PEP End Point Profiles
705
Profile Name = ABC
Global TCP Spoofing -> Enabled
701
Profile Name = XYZ
Global TCP Spoofing -> Disabled
703

FIG. 8

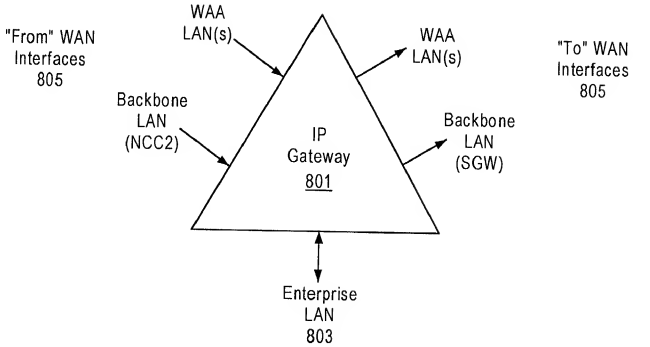

"From" WAN Interfaces 805
WAA LAN(s)
Backbone LAN (NCC2)
IP Gateway 801
WAA LAN(s)
Backbone LAN (SGW)
"To" WAN Interfaces 805
Enterprise LAN 803
Local LAN Interfaces

FIG. 9

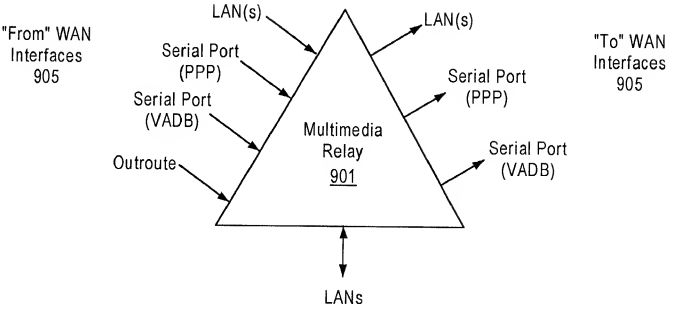

"From" WAN Interfaces 905
LAN(s)
Serial Port (PPP)
Serial Port (VADB)
Outroute
Multimedia Relay 901
LAN(s)
Serial Port (PPP)
Serial Port (VADB)
"To" WAN Interfaces 905
LANs
Local LAN Interfaces 903

FIG. 10

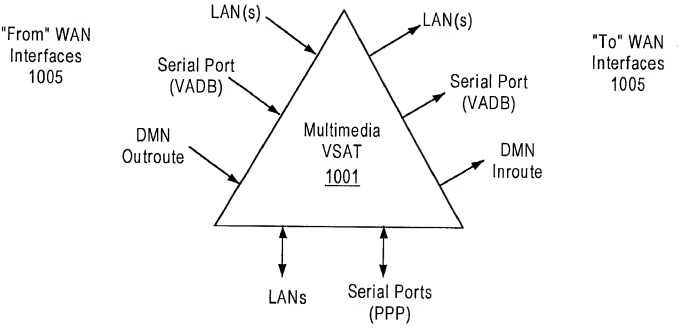

"From" WAN Interfaces 1005
LAN(s)
Serial Port (VADB)
DMN Outroute
Multimedia VSAT 1001
LAN(s)
Serial Port (VADB)
DMN Inroute
"To" WAN Interfaces 1005
LANs
Serial Ports (PPP)
Local LAN Interfaces 1003

FIG. 11

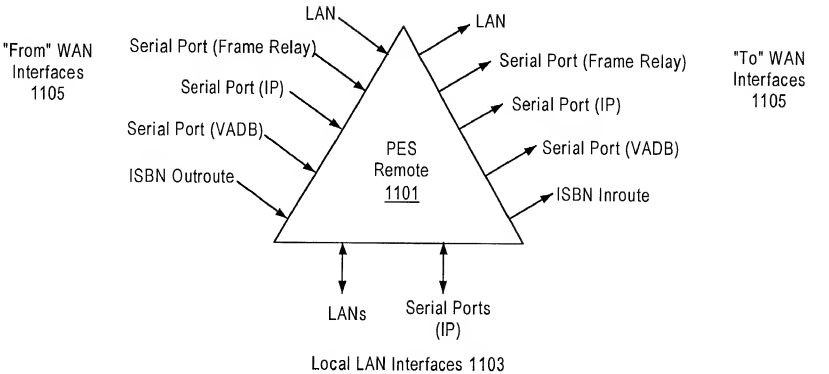

"From" WAN Interfaces 1105
LAN
Serial Port (Frame Relay)
Serial Port (IP)
Serial Port (VADB)
ISBN Outroute
PES Remote 1101
LAN
Serial Port (Frame Relay)
Serial Port (IP)
Serial Port (VADB)
ISBN Inroute
"To" WAN Interfaces 1105
LANs
Serial Ports (IP)
Local LAN Interfaces 1103

FIG. 12

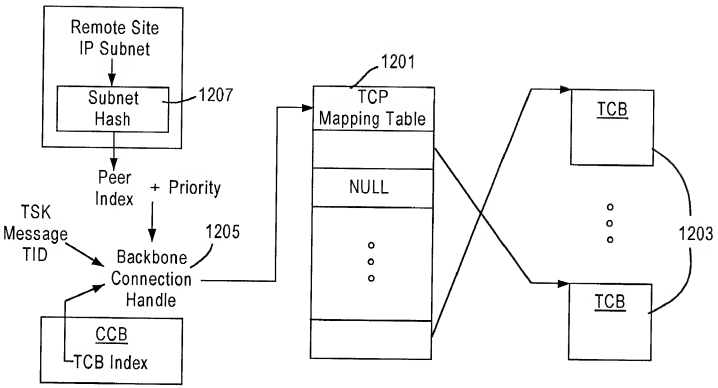

Remote Site
IP Subnet
Subnet
Hash
1207
Peer
Index
+ Priority
TSK
Message
TID
1205
Backbone
Connection
Handle
CCB
TCB Index
1201
TCP
Mapping Table
NULL
TCB
TCB
1203
Hub Platform Environment Specific Functionality

FIG. 13

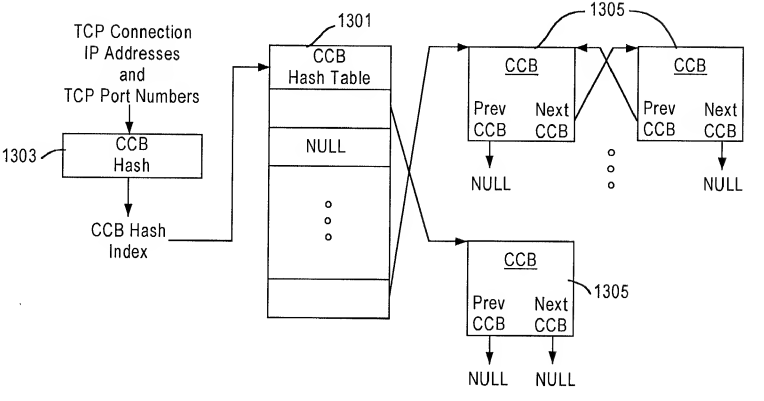

TCP Connection
IP Addresses
and
TCP Port Numbers
1303
CCB
Hash
CCB Hash
Index
1301
CCB
Hash Table
NULL
1305
CCB
Prev
CCB
Next
CCB
NULL
CCB
Prev
CCB
Next
CCB
NULL
CCB
Prev
CCB
Next
CCB
1305
NULL
NULL

FIG. 14

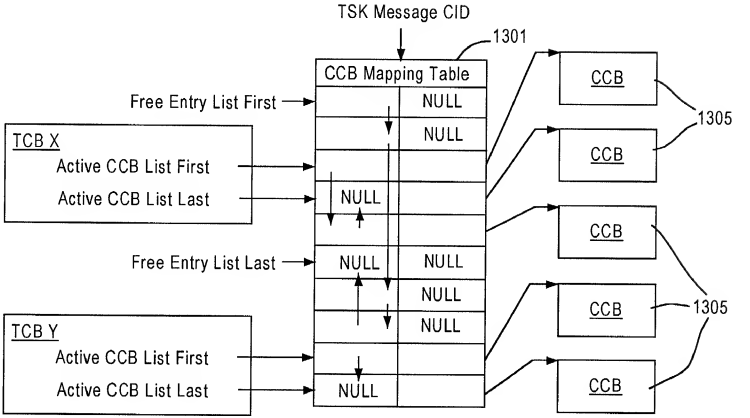
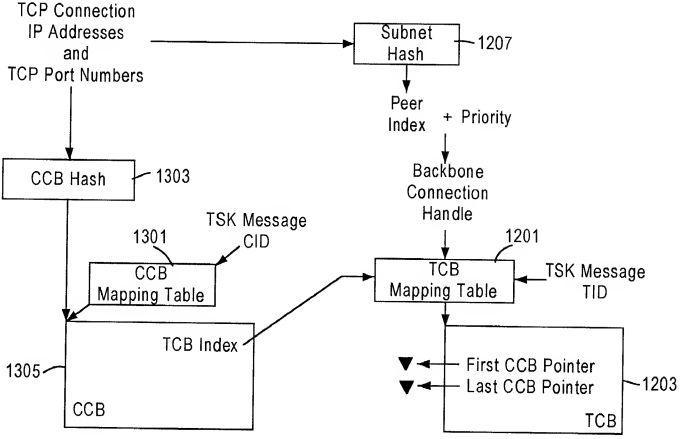

TSK Message CID
1301
CCB Mapping Table
Free Entry List First
TCB X
Active CCB List First
Active CCB List Last
Free Entry List Last
TCB Y
Active CCB List First
Active CCB List Last
NULL
CCB
1305

FIG. 15



☐ Implemented in Hub and Remote Platform Environments.
☐ Implemented in the Hub Platform Environment.
▼ Points to the CCB via a linked list.

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FIG. 16

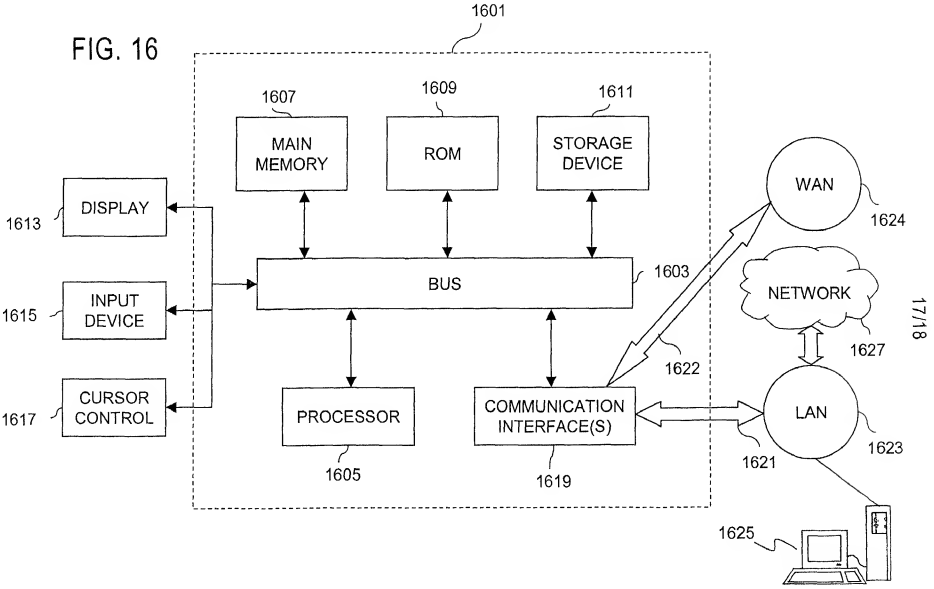


FIG. 17

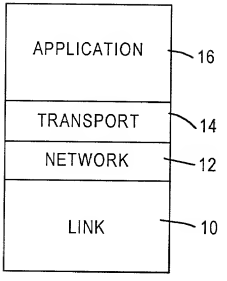
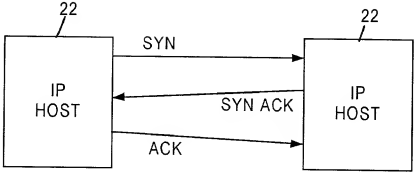


FIG. 18



TCP CONNECTION